Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Plaquemine Steam Electric Power Plant
Louisiana Energy and Power Authority
Plaquemine, Iberville Parish, Louisiana
Agency Interest Number: 26034
Activity Number: PER20020001
Draft Permit 1280-00026-V1

I. APPLICANT:

Company:
Louisiana Energy and Power Authority
210 Venture Way, Lafayette, LA 70507

Facility:
Plaquemine Steam Electric Power Plant
59335 W W Harleaux St., Plaquemine, Iberville Parish, Louisiana
Approximate UTM coordinates are 667.80 kilometers East and 3350.21 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS:

Plaquemine Steam Electric Power Plant, an existing electric power generation facility began operation prior to 1980. The Plaquemine Steam Electric Power Plant is owned by the City of Plaquemine and operated by Louisiana Energy and Power Authority. The Plaquemine Steam Electric Power Plant currently operates under Permit No. 1280-00026-V0, issued September 16, 1997.

III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

A permit application and Emission Inventory Questionnaire were submitted by Louisiana Energy & Power Authority (LEPA) on July 16, 2002, requesting a Part 70 operating permit renewal. Additional information dated September 21, 2005, January 18, 2006, January 26, 2006, August 16, 2006, and September 26, 2006, was also received.

With this modification, Plaquemine Steam Electric Power Plant proposes to:

- Incorporate Compliance Assurance Monitoring (CAM) provisions for Boiler

#2 in accordance with 40 CFR 64.

- Incorporate terms and conditions necessary to verify exemption from the requirements of 40 CFR 60.45(a).
- Revise emissions estimates based on updated emission factors

Project Description

The Plaquemine Steam Electric Power Plant is an electric power generation facility that consists of two boilers (EQT 1 and EQT 2) and two cooling towers (EQT 3 and EQT 4). The boilers burn natural gas exclusively. This facility is used to provide power during times of peak demand. Emissions increases associated with this project are not the result of a physical change or change in the method of operation.

In order to qualify for an exemption from the requirement to install a continuous emissions monitoring system for nitrogen oxides on Boiler #2 (EQT 2) as required by 40 CFR 60 Subpart D, this source must operate with the automatic system that controls the air inlet vanes engaged and in working order. In addition, the source may not operate with a heat input of greater than 272 million BTU/hr.

Section 6 of the Permit Application, dated July 16, 2002, lists the permitted emission rate before and after the project (in tons per year) for each emission point in the permit. These changes are summarized in the Permitted Air Emissions Section.

Permitted Air Emissions

Estimated changes in permitted emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	39.53	45.45	+ 5.92
SO_2	1.48	1.39	- 0.09
NO_X	1349.04	492.66	- 856.38
CO	98.11	221.56	+ 123.45
VOC	3.53	12.81	+ 9.28

Prevention of Significant Deterioration Applicability

The emission increases from the project are due to the use of updated emission factors. They are not due to a physical change or change in the method of operation. Therefore, the proposed facility is not subject to the requirements of the PSD program.

This application was reviewed for compliance with the Louisiana Part 70 operating permit program, Louisiana Air Quality Regulations and NSPS. NESHAP regulations do not apply.

MACT Requirements

Plaquemine Steam Electric Power Plant is a minor source for toxic air pollutants and is not required to address maximum achievable control technology (MACT) pursuant to the requirements of LAC 33:III.Chapter 51.

The facility complies with the ambient air standards (AAS).

Air Modeling Analysis

No dispersion modeling was performed.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

Regulatory Analysis

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit, or where provided, Tables 2, 3 and 4 of the draft permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the Facility Specific Requirements Section of the draft permit, or where provided, Tables 2, 3 and 4 of the draft permit.

IV. Permit Shields

There is no permit shield.

V. Periodic Monitoring

Compliance Assurance Monitoring

Federal regulation 40 CFR 64-Compliance Assurance Monitoring is applicable to this facility. Applicability for each pollutant requires that the unit be subject to an emission limitation or standard and must use an active control device to achieve compliance. The following emission sources with pollution control equipment have a pre-control emission rate of a pollutant over 100 tons per year and were determined to require a CAM Plan: C2 – Boiler #2.

A stack test was performed on June 2, 2000, that showed compliance with the nitrogen oxides emission limitations to which this unit is subject. According to the data obtained in this stack test, this unit will be able to assure compliance with the nitrogen oxides emissions limitations by maintaining the unit at less than 22.8 megawatts of energy output and 272 million BTU/hr of heat input. Compliance with these limitations will be assured by recording the fuel consumption rate and the electrical generation rate four times per hour.

VI. Applicability and Exemptions of Selected Subject Items

ID No:	Requirement	Notes
EQT 1	NSPS Subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced after August 17, 1971 [40 CFR 60.40]	DOES NOT APPLY. Unit was last constructed, modified, or reconstructed prior to August 17, 1971. [40 CFR 60.40(c)]
EQT 1 EQT 2	Emissions Standards for Sulfur Dioxide [LAC 33:III.1503]	EXEMPT. Units emit less than 250 tons per year of sulfur dioxide. [LAC 33:III.1503.C]

VII. Streamlined Requirements

Unit or Plant Site	Programs Being Streamlined	Stream Applicability	Overall Most Stringent Program
Plaquemine Steam Electric Power Plant	None	-	-

VIII. Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other

costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Hydrogen Sulfide - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited

to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10}- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulphur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.